NOVA SCOTIA ELECTRIC MARKETPLACE GOVERNANCE COMMITTEE

ISSUES PAPER #3

MARKET SCOPE

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Table of Contents

1 INTRODUCTION 1

2 WHOLESALE COMPETITION 1

3 EXPANDING MARKET SCOPE: STAGES 2

3.1 Large Industrial Customers 3
3.2 Medium Industrial and Large Commercial 6
3.3 Small Commercial and Residential 6

4 IMPLICATIONS FOR THE EMGC 6

1 INTRODUCTION

The *Energy Strategy* stated that the approach to opening the Nova Scotia electricity market would be opened to competition "carefully and gradually"[1]. It also identified encouraging long-term competition in electricity as one of the three major objectives for the electricity sector.

As a minimum starting point, the *Energy Strategy* identified opening the market to wholesale competition, meaning making the existing wholesale customers eligible to buy their electricity supply from competitive sources, rather than from NSPI. These eligible customers (the municipal distribution utilities) constitute only 1.6% of the total electricity demand in Nova Scotia.

The Electricity Marketplace Governance Committee has expressed concern that limiting the competitive market to this small fraction of total demand will not accomplish the objective of encouraging long-term competition. The purpose of this paper is to explore the possible extensions of competition beyond the minimum specified in the *Energy Strategy* and to identify possibilities the EMGC might consider. The exploration will look at other potential levels of competition and issues associated with them.

2 WHOLESALE COMPETITION

If bringing competition only to the wholesale customers were the only electricity restructuring goal, the market might not require much restructuring. The existing vertically integrated monopoly supplier could be left virtually intact. However, special provisions in the market design would likely be required for providing sufficient liquidity in the market, including ensuring reasonable terms for balancing and standby services.

For any competition to occur, competitive suppliers would have to have full non-discriminatory access to the transmission system. Any competitive supplier of electricity, or any eligible load, should be able to schedule transactions on the system. Their scheduled transactions should have the same claim to the transmission system resources as any other transmission system user, including NSPI itself. The rates the competitive suppliers (or their customers) pay should be the same as those for the integrated utility.

[1] *Energy Strategy*, v. I, pg. 26.

The current customers of the integrated utility pay only bundled rates including generation, transmission, and distribution costs, along with the full bundle of ancillary services. If a competitive customer is to use the transmission system, it must face a rate for the transmission service (and accompanying ancillary services) separate from that for energy.

The major issues in implementing wholesale competition at this level, therefore, relate to the unbundling of the transmission tariff from the cost of energy supply and from the costs of distribution and retail marketing. This includes establishing the pricing for balancing service that is fully reflective of costs and not unduly punitive.

In this model, the integrated utility need not otherwise change either its organizational structure nor its behavior very much beyond unbundling charges. The system operator entity would remain intact, and would continue to operate the electricity supply system as before. The demands for transmission access would be minimal, and probably readily accommodated. While the utility would have to schedule transactions with itself, it would likely consider most such transactions to be network service, to be given preference over interruptible transactions.

The system operator would likely continue to be a part of the vertically integrated monopoly utility. Eligible customers who do not choose alternative supply, and all the rest of the customers, would receive electricity priced as determined by the regulator.

3 EXPANDING MARKET SCOPE: STAGES

To make an electricity market competitive, some of the demand must be made available for competitive supply. If there are no possible buyers, there will be no sellers and if there are not a sufficient number of possible buyers the prospects for competitive entry will be diminished. The fundamental premise of electricity restructuring is that the restructured market will promote efficiency through competition, and the competition comes from sellers vying for the business of the buyers.

In many jurisdictions,[2] competition for electricity supply has been opened in stages. The usual practice is to open to competition at first only the largest (typically industrial) customers. Then, in stages, competition is opened to

[2] Including the earliest to adopt a competitive market for electricity, such as the UK and Norway.

successively smaller customers. An advantage of this approach is that it starts with relatively few individual customers, so that the transitional and administrative costs are lower. Only as competition develops does the number of eligible customers grow.

3.1 Large Industrial Customers

For Nova Scotia, a first step beyond the wholesale customers could therefore be the larger industrial customers. NSPI has several different tariffs addressed to its large industrial customers. In general, these tariffs define such customers as those with connections of 2 MVa or 1.8 MW. Most such customers are connected to the NSPI transmission system, although some may be connected at distribution level voltages.

Large industrial customers, under that definition, account for 25-30% of total NSPI energy demand. NSPI has over 40 such large customers, on various specific industrial rates all of which require a connection of 2 MVa.

Adding all customers of that size to the list of those eligible to choose competitive suppliers would have several implications for the structure of the electricity supply industry in Nova Scotia.[3] Many of the institutions and mechanisms required to open the transmission system, such as the OATT and the OASIS system, would serve an expanded market well.

Issues that would be likely to become more important would include the design of the market, the ancillary services provision, the degree of independence of the system operator and market operator, the degree of vertical integration of NSPI, the obligation to serve and the provision of standard offer supply (SOS) and potentially stranded cost recovery.

3.1.1 Market Design

Nova Scotia could require an explicit market design to accommodate competition for as much as a quarter (or more) of total load. Simply ensuring open access to the transmission system would not necessarily lead to the creation of a viable market. Buyers and sellers would need a more formal method of ensuring that their transactions will be completed.

[3] This would be similar to the level of market opening being implemented in New Brunswick.

To recommend a market extension of this kind, there would have to be a decision to adopt some market design. In most jurisdictions with competition open to this degree, the market design has been based on bilateral contracts or on a competitive real time pool.

In the United States, most jurisdictions reacted to FERC Orders 888 and 889 with a bilateral contract market. New Brunswick has also chosen to implement a bilateral contract market. A bilateral contract market would also be feasible in Nova Scotia. Those jurisdictions which adopted competitive real time pool markets have usually extended, or intended to extend, competition to the retail level.

3.1.2 Ancillary Services

This market extension would greatly increase the number of eligible buyers, and likely eventually increase the number of independent sellers. With that increase, there would likely be an increased focus on the provision and pricing of ancillary services, particularly balancing services.

Balancing services are provided to adjust for the differences between scheduled and actual transactions in the electricity supply system. They are one of the optional ancillary services; the transmission owner must provide them, and the market participant must have them, but it can either self-supply or obtain them from other market participants. If only 1.6% of the total energy is not traded through NSPI, the provision of balancing energy for competitive contracts is not a major issue, since the total of balancing energy will be small. When a much larger fraction of the market becomes competitive, balancing energy will become a much more important service. Some jurisdictions, including New Brunswick and Western Australia, have considered basing balancing energy on a residual market.

The other ancillary services could also become a more important issue, if new entrants want to sell ancillary services to the system operator when their capacity is not being used for generation.

3.1.3 System Operator

A small market may not require creation of a separate system operator. The existing structure of a vertically integrated utility owning and operating the transmission system could accommodate the limited level of competitive supply. For Nova Scotia, this may not be the decision; an independent system operator may be needed to ensure access to the system for cogeneration and

other desirable generation which (under the limited competition model) must access export markets.

For an extended market, the vertically integrated utility would be expected to compete for electricity supply with other potential suppliers, both inside and outside the province. A system operator affiliated with a generator, especially a dominant one, could be expected to favor its affiliate in various ways. The independence of the system operator can therefore be a more important issue.

Also, in the extended market, the system operator will have a broader function in administering the market, whether it is a bilateral contract market or a competitive real time pool.

These issues would lead to the question of the continued appropriateness of maintaining NSPI as a vertically integrated utility with the higher degree of competition in the market. In the United States, many formerly integrated utilities have sold off their generation assets to concentrate on their transmission businesses. However, many have not, and in some cases they have been suspected of favoring their affiliated generation. In New Brunswick, this issue is still under debate; the New Brunswick Market Design Committee preferred full separation of the entity containing the transmission owner and operator and the system operator, but no final decision has been made. In Ontario and Alberta, the transmission operator and system operator have been completely separated from the generation owners.

3.1.4 Standard Offer Supply Service and Obligation to Supply

For an eligible customer, the alternative to competitive supply is the standard offer service (SOS). Under the initial market as envisioned in the Energy Strategy, NSPI will continue to have an obligation to supply all customers in the province at a regulated, cost-based price. Since the vast majority of customers will have no choice but those prices, the issue of SOS supply is not a major one.

However, if competition were open to many more customers with much more energy demand, the issue of what alternative they face becomes an important one. In the United States, the SOS supply offer has such various names as "price to beat" and "shopping credit", denoting the idea that customers who "shop" for electricity with a competitive supplier will be comparing to that price. The level of the prices and its terms have been subjects of considerable discussion in the United States.

Whether or not any entity has an obligation to supply, and what that obligation is, are also matters of more interest as the size of the competitive market grows.

3.2 Medium Industrial and Large Commercial

These two categories represent about another 7.5% of total energy demand.

Allowing them to choose competitive electricity supply would not therefore constitute as large a difference in total competition as the first step of large industrial customers only. However, they would represent a significant increase in the number of customers eligible to choose competitive supply.

With this increment, all of the issues raised for the industrial customers would still be relevant. In addition, there would be issues relating to metering, billing and settlement systems because many more customers would require the ability to bill and settle for energy (and potentially ancillary services) separately. They would also need access to the transmission system to ensure their competitive supply can be available.

Customers large enough to be included in these classes may generally already have meters capable of use in a competitive market.

3.3 Small Commercial and Residential

Most of the rest of the NSPI demand is from smaller commercial and residential customers.

Enabling such customers to choose competitive supply raises a number of additional issues. It greatly increases the number of eligible customers and therefore the numbers who could require separate billing. It therefore places a greater burden on the distribution utility.

Also, these smaller customers will not have meters which can allow them to benefit from prices which vary with time of use.

4 IMPLICATIONS FOR THE EMGC

One EMGC concern on the question of future development of the electricity market in Nova Scotia has been to ensure that its recommendations are compatible with whatever more competitive market evolves in the future. This

brief review confirms that it is unlikely that the transition to an open access transmission market will need to be reversed. On the contrary, it is likely to be an essential component of any further evolution.

The EMGC also wanted to consider two further questions: whether to recommend an institutional design that goes beyond the minimum needed to implement the limited competitive market envisioned in the *Energy Strategy*, and whether to recommend specific steps in that more competitive direction.

By making recommendations for an institutional and market structure which is compatible with a broader competitive market, the EMGC could minimize future transition costs and perhaps help promote that future evolution. It could go further and recommend a more specific path towards greater competition, as outlined in this paper.